



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX

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OFFICE OF THE  
REGIONAL ADMINISTRATOR

OCT 13 2015

John Ruhs  
Bureau of Land Management  
1340 Financial Boulevard  
Reno, Nevada 89520

Subject: Draft Environmental Impact Statement (EIS) for the Coeur Rochester Mine Plan of Operations Amendment 10 and Closure Plan, Pershing County, Nevada [CEQ #20150230]

Dear Mr. Ruhs:

The U.S. Environmental Protection Agency (EPA) has reviewed the Coeur Rochester Mine Environmental Impact Statement (EIS). Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's (CEQ) NEPA Implementation Regulations at 40 CFR 1500 - 1508, and our review authority under Section 309 of the Clean Air Act.

Under the proposed action, Coeur Rochester Incorporated (CRI) would expand the Coeur Rochester Mine, located on BLM lands in Pershing County, Nevada, near the town of Lovelock. The proposed expansion would increase the authorized surface disturbance on the site by 231 acres, to a total of 2,170. The project includes continued operation of the site's operating cyanide heap leach facilities, expansion of heap IV and the construction of the proposed Stage V heap. In addition, the proposed project includes revisions to the Coeur Rochester Mine Closure Plan to cover the proposed expansion.

Numerous post-closure monitoring and mitigation activities will need to be conducted by Coeur Rochester, Incorporated (CRI) to ensure protection of water quality and wildlife in the project vicinity. The Draft EIS includes a brief description of some of the post-closure obligations associated with the mine's continued operation, expansion and the proposed revisions to the closure plan; however, it does not include a discussion of the need for post-closure financial assurances to pay for these activities, nor does it acknowledge the existing trust, which covers the currently approved closure and post-closure activities. In addition, no cost estimate for the long-term trust, nor any analysis of its adequacy or the uncertainties associated with the estimate, are provided. Therefore, EPA finds that the Draft EIS does not adequately demonstrate that the costs of post-closure monitoring and mitigation for the expanded Coeur Rochester Mine Project will be covered for as long as needed to avoid significant environmental impacts.

Important geochemical information is missing from the DEIS. According to data included in the project record but left out of the DEIS, the residual heap leach solution that would drain down in the closure and post-closure period is anticipated to exceed Nevada Profile I water quality reference values for aluminum, antimony, arsenic, lead, copper, iron, mercury and silver (CRI, 2014). In addition, we note that, although the spent ore samples tested did not generate acid during the test period, the consultant who performed this geochemical analysis recommended that this material be treated as potentially acid

generating in the long term due to its acid base accounting characteristics (Knight Piesold Consulting, 2013). It is, therefore, critical that the heap leach facilities achieve the zero-discharge goal intended by the closure design. EPA is unable to determine whether this goal is likely to be attained due to an incomplete description of the closure and post-closure management of the heap leach facilities in the Draft. For example, the Draft EIS does not include any information regarding the time required for the heap leach facilities to reach a steady-state drainage rate, nor does the document note when, or even whether, the heap leach facilities are anticipated to reach a rate of drain-down that can be managed in a fully passive manner. Similarly, while the Draft EIS indicates that the heap leach e-cells would require excavation and total system replacement after 30 years (or sooner if post-closure monitoring identifies a need), it does not disclose that the e-cells would require excavation and replacement on a recurring 30 year interval -- an indefinitely recurring additional expense (personal correspondence with BLM staff, September 2015).

Absent sufficient funds for site maintenance, the potential exists that heap leach seepage exceeding numerous Nevada Profile I water quality reference values, and potentially of an acidic nature, would eventually be released to the environment due to an overflow of the plugged evaporation cells. E-cell D sits immediately above Lower American Canyon Spring, while e-cells G and in-heap cell II sit above South American Canyon Spring. These perennial springs feed small non-jurisdictional wetland communities and provide wildlife habitat. Any overflow from these e-cells would have a very short distance to travel before likely coming into contact with vegetation and wildlife communities. In addition, as discussed extensively in the "Coeur Rochester Inc. Water Quantity and Quality Impacts Analysis" (Schlumberger Water Services, 2015), the mine site is underlain extensively by a fragmented network of shallow alluvial groundwater. This shallow alluvial groundwater would offer a ready pathway for any heap leach seepage that may escape containment to be transported into a surface water system.

EPA has rated the Coeur Rochester Mine Plan of Operations Amendment 10 and Closure Plan Draft EIS as "3 – Inadequate Information" (see Enclosure 1: "Summary of Rating Definitions and Follow-Up Action") because it does not disclose adequate detail on what activities would be required for the proposed expansion in the post-closure period nor how funds would be secured to ensure that they are available as long as they are needed to implement critical post-closure obligations. The information that EPA believes is needed includes: (1) a detailed description of the post-closure obligations for the proposed project, (2) an estimate of the amount needed to cover the costs of these obligations, (3) a detailed description of the proposed long-term funding mechanism that would be established for the proposed project (or description of how the existing trust would be modified); and (4) the updated reclamation/closure bond amount needed for the project.

We recommend that BLM: determine the appropriate level of funding for the reclamation/closure bond and the proposed long-term funding mechanism for the proposed project; analyze the adequacy of the funding amount and mechanism, including associated uncertainties; and circulate this information in a Supplemental Draft EIS for public comment, in accordance with NEPA and CEQ's NEPA Implementation Regulations. We recommend the Supplemental Draft EIS evaluate the anticipated effectiveness and risks of the Coeur Rochester Mine closure and post-closure commitments, and demonstrate that sufficient funds would be available to implement the post-reclamation obligations for as long as they are needed. EPA respectfully requests the opportunity to review this information and provide BLM our feedback before you publish the Supplemental Draft EIS. EPA's detailed comments on the Draft EIS are enclosed (Enclosure 2).

BLM and EPA agree that adequate financial assurance at mines is important to safeguard the environment. EPA continues to believe that the adequacy of financial assurance is an important element to be addressed and disclosed in the NEPA process. Without this information, EPA believes that decision-makers will not have important information concerning the likelihood that sufficient resources will be available for closure and post-closure mitigation, and the public may not understand the potential environmental and fiscal consequences of a proposed project.

We appreciate the opportunity to review this Draft EIS and look forward to working with BLM to resolve the issues outlined in this letter. In the meantime, if you have any questions, please call me at (415) 947-4238 or have your staff contact Carter Jessop, our lead NEPA reviewer for this project, at (415) 972-3815.

Sincerely,

A handwritten signature in black ink, appearing to read "Jared Blumenfeld". The signature is fluid and cursive, with a large initial "J" and a long, sweeping underline.

Jared Blumenfeld  
Regional Administrator

Enclosures:

- (1) Summary of Rating Definitions and Follow-Up Action
- (2) EPA's detailed comments on the Coeur Rochester Mine Plan of Operations Amendment 10 Draft EIS

## **SUMMARY OF EPA RATING DEFINITIONS\***

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

### **ENVIRONMENTAL IMPACT OF THE ACTION**

#### ***"LO" (Lack of Objections)***

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

#### ***"EC" (Environmental Concerns)***

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

#### ***"EO" (Environmental Objections)***

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

#### ***"EU" (Environmentally Unsatisfactory)***

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

### **ADEQUACY OF THE IMPACT STATEMENT**

#### ***"Category 1" (Adequate)***

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

#### ***"Category 2" (Insufficient Information)***

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

#### ***"Category 3" (Inadequate)***

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment

## **USEPA Detailed Comments on the Coeur Rochester Mine Plan of Operations Amendment 10 and Closure Plan Draft Environmental Impact Statement – October 13, 2015**

### **Heap Leach Closure and Post-Closure Financial Assurance**

At closure, residual drain-down from existing and proposed heap leach pads would be managed by a network of ten evaporation cells. Due to topographical constraints, limited space is available for the construction of these evaporation cells. Accordingly, a solution delivery and distribution system would connect many of these cells to one another in order to efficiently distribute the drain-down solution over the surface of the evaporation zone. According to the DEIS, the proposed action would extend the mine's life by an estimated five to seven years, after which a period of passive leaching would take place, followed by approximately five years of active reclamation and site closure. The heap leach facilities, however, are anticipated to require post-closure management and maintenance. In addition to regular monitoring to ensure all fluid-management components are operating properly, the BLM estimates that solids would accumulate in the evaporation cells, and, approximately 30 years after mine closure, the evaporation cells would need to be excavated, and their system components replaced. In conversations with BLM staff, we understand that this activity is conservatively estimated to be required every 30 years thereafter with no known or estimated end date.

Absent this post-closure site maintenance, it is likely that heap leach drain-down fluids would overflow the plugged e-cells, releasing mine influenced water to the environment. According to the data provided in the project record, but excluded from the DEIS, the heap leach drain-down is anticipated to exceed Nevada Profile I reference values for aluminum, antimony, arsenic, lead, copper, iron, mercury, and silver. EPA notes that the e-cells are proposed for construction immediately adjacent to perennial springs fed by shallow groundwater. South American Canyon Spring and Lower American Canyon Spring feed a combined 0.2 acres of non-jurisdictional wetland habitat. Should the proposed e-cell system fail to contain heap leach residual drain-down solution, particularly at e-cells D, G, and in-heap cell II, then those solutions can be reasonably expected to daylight in one or more of these springs, impairing their water quality and posing a risk to any wildlife and livestock utilizing them. Thus, if heap leach facilities and evaporation ponds are not properly managed over the long-term, the project could result in significant and long-term degradation of surface water and/or groundwater quality, as well as wildlife exposure to acute or chronic toxicity.

In order to pay for the existing post-closure site maintenance and management obligations at the site, the BLM has required CRI to establish a long term trust fund. Under the proposed expansion, this trust would need to be expanded and revised, increasing post-closure expenses considerably; however, the DEIS discusses the mine's post-closure obligations in only a cursory fashion. The document does not disclose the mine's need for a long term trust fund to pay for post-closure maintenance, disclose that post-closure funds would be needed to perform e-cell maintenance for an unknown period of time following closure, nor describe probable impacts or contingencies if inadequate funds are available when needed. Without this information, EPA is unable to fully assess the potentially significant environmental impacts of the proposed project and whether the project might result in a long term financial liability to the federal government in the future, e.g., under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

**Recommendation:** Determine and disclose the level of funding that would be needed for closure of the Coeur Rochester Mine proposed expansion, and disclose the specific mechanism that would be established to ensure that sufficient funds would be available when needed for that purpose. Circulate this information in a Revised or Supplemental Draft EIS for public comment.

Include in the Revised or Supplemental Draft EIS a more comprehensive discussion of the heap leach closure plan and post-closure management/maintenance obligations. We recommend the document clearly describe the duration for which post closure site maintenance, particularly heap leach evaporation cell excavation and component replacement, will be required. We recommend the heap leach drain down curve (derived from Nevada Department of Environmental Protection's Heap Leach Drain-down Estimator) be included and its relevance described.

### **Additional Long-Term Monitoring Maintenance Activities and Costs**

The Draft EIS describes the proposed construction of 10 evaporation cells located at the toe of or on top of heap leach pads I through V. These cells would be managed by a relatively complicated solution delivery and distribution system in order to maximize total evaporation. The Draft EIS does not adequately describe the pumps incorporated into the design of some of the e-cells to move solution between the cells, nor the pumps used to move solution from the e-cell storage compartment up to the evaporation zone (p. 2-47). It is unclear how long these pumps would need to operate or how they would be maintained.

**Recommendation:** Describe, in the Revised or Supplemental Draft EIS, all maintenance and management activities that would be required in the post-closure period, including the maintenance requirements and eventual fate of the e-cell pumps.

In the Revised or Supplemental Draft EIS, specify all of the post-closure monitoring, O&M, and replacement activities, and describe their performance standards. Include the cost estimates for these activities, which are needed to estimate the overall long-term financial assurance obligation.

Mine-influenced seepage emanating from the Stage I heap leach facility, its process ponds and pipelines has impacted shallow alluvial groundwater in the project area since as early as 2001. The Draft EIS indicates that process solution and calcium hypochlorite from accidental releases entered the shallow sediments adjacent to and/or underlying the Stage I heap (p. 1-17). In 2013, the Nevada Department of Environmental Protection mandated the installation and operation of a pump-back well system on the project site to prevent the spread of the contaminated plume at the site. This pump-back well now operates at a rate of approximate five gallons per minute. Page 2-58 of the Draft EIS indicates that this pump-back well would continue groundwater remediation pumping and recovery during the mine closure period, however the Draft EIS does not indicate the fate of this activity in the post-closure period. Although the e-cell system is designed for management of the pump-back volume in addition to the heap leach drain-down solution, it is unclear whether this well would be required to operate in perpetuity and, if so, what the expense of this activity would be and how it would be funded.

**Recommendation:** Describe, in the Revised or Supplemental Draft EIS, the closure and post-closure plans for the groundwater remediation pumpback well. Include the anticipated operational timeline for this system and how its continued operation would be funded for as long as it is required.

### **Summary of Geochemical Characterization**

Many BLM mining EISs include a detailed discussion of the geochemical testing procedures employed and the results thereof; however, the Coeur Rochester Draft EIS contains only a very cursory summary of the geochemical characterization of the project's waste rock and ore materials, and notes that much of the geochemical analysis was performed before existing current testing methods and regulatory guidance were developed. While included in separate reference materials as part of the Plan of Operations, a description of the chemistry of the residual heap leach drain-down solution was not included in the Draft EIS. Absent this information, it is impossible to assess the importance and adequacy of many other project components. EPA found that, in order to access geochemical information fundamental to understanding the project's potential to degrade surface and groundwater quality, it was necessary to access referenced materials and the appendices of those referenced materials.

EPA supports the practice of "incorporation by reference" in the NEPA process in order to control the length and technical detail contained in an EIS; however, sufficient summary information should be included in the DEIS to enable the reader to understand the design and impacts of the proposed project and its alternatives. Supporting documentation can then be included in an appendix or incorporated by reference, as appropriate (See CEQ's "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" [Question 25b] for guidance on determining whether inclusion as an appendix or incorporation by reference is warranted). In this case, however, BLM did not include sufficient summary of, or citation or access to, key relevant information needed for informed decision making.

**Recommendation:** Include in the Revised or Supplemental Draft EIS a thorough discussion of the geochemical characteristics of project waste rock and ore, including a discussion of anticipated heap leach drain down solution. We recommend this discussion include not only the acid generating/acid neutralizing potential of these materials, but also their metals leaching potential and the concentrations of the relevant constituents anticipated in waste rock seepage and heap leach drain down.

Consider making referenced materials, including the Plan of Operations and its appendices, available in an electronic format or via download from the BLM's website. For future projects, we strongly recommend that this be done at the DEIS stage of the NEPA process, and that any documents incorporated by reference be sufficiently summarized in the DEIS.

## **Climate Change**

On December 18, 2014, the Council on Environmental Quality released revised draft guidance for public comment that describes how Federal departments and agencies should consider the effects of greenhouse gas emissions and climate change in their National Environmental Policy Act reviews. This guidance explains that agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated greenhouse gas emissions, and the implications of climate change for the environmental effects of a proposed action.

The DEIS briefly discusses climate change and includes a calculation of the project's approximate CO<sub>2</sub> emissions and a discussion of the social cost of carbon in relationship to this project. Additionally, the DEIS compares the approximate CO<sub>2</sub> emissions associated with the project with global emissions. We believe the comparison of project emissions to global emissions does not provide meaningful information for a project-specific analysis. The DEIS does not identify any mitigation measures that could reduce or minimize the project's greenhouse gas emissions, nor does it consider climate change's potential impact upon the project. The latter is particularly relevant, given the limited evaporation cell

capacity, the high metals concentrations of heap leach drain down solution, and the potential that climate change may affect precipitation patterns in the project area.

*Recommendations:* Include in the Revised or Supplemental DEIS a robust discussion of the potential impacts of climate change on the project and its environmental outcomes.

Instead of comparing project level emissions to global, U.S., or statewide emissions, provide a frame of reference, such as an applicable Federal, state, tribal or local goal for GHG emission reductions, and discuss whether the emissions levels are consistent with such goals.

Identify and disclose all relevant, reasonable mitigation measures that could reduce greenhouse gas emissions, even if they are outside the jurisdiction of the BLM<sup>1</sup>. We offer the following potential measures for the BLM's consideration:

- Incorporation of energy efficiency measures and appropriate alternative energy components into the project, such as on-site solar and/or geothermal power generation;
- Use of conveyors rather than haul trucks wherever feasible, e.g., for transporting ore to processing areas and the heap leach facility; and
- Establishment of ride sharing or shuttle opportunities for mine employees commuting to the site from both nearby and distant communities.

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<sup>1</sup> As explained in the Council on Environmental Quality's Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, "This will serve to [46 FR 18032] alert agencies or officials who can implement these extra measures, and will encourage them to do so."